

34. RANGE EXTENSION OF *NEOCANCILLA CIRCULA* (KIENER 1838)

(With one text-figure)

The family Mitridae is well represented along the Indian coast. Cernohorsky (1976) classified four subfamilies of Mitridae based on radula and shell characters. Subba Rao and Dey (1984) gave an excellent review of Indian mitrids, with their distribution. Most of the data on distribution is, however, very old.

Neocancilla circula (Kiener 1838), formerly *Mitra circula* Kiener 1838, was recorded from the south to southeast coast of India along Pamban, Chennai (= Madras), and Andaman and Nicobar Islands (Gravely 1942, Satyamurti 1952, Subba Rao and Dey 1984). None of these mention its occurrence along the west coast. A few references to molluscan fauna along the west coast are available (Melvill and Abercrombie 1893, Subrahmanyam *et al.* 1952, Menon *et al.* 1961), but none of these mention *N. circula*.

A specimen of *N. circula* was collected from Sasvane, Alibag (Maharashtra) during 1991-92. Subsequent surveys revealed its wide distribution on the west coast extending from Okha (Gulf of Kutch) to Malvan (Konkan coast, Maharashtra). The species has also become established along the Mumbai coast since 1992. Fifty transects in 1991 revealed 78 individuals, while a transect study in 1996 recorded 635 individuals from the study site.

Habitat: The species prefers rocky shores covered abundantly with silt or mud, but it is

Fig. 1: *Neocancilla circula* (Kiener 1838)

also found on sandy shores and mangroves.

Description: The shell is thick and spirally ridged. Upper whorls bear three spiral ridges, while lower whorls bear more than three. The outer lip is crenulated. The height of the shell is double or slightly more than that of the aperture. Columella bears three strong folds, of which the uppermost is the strongest. Subba Rao and Dey (1984) mention that the columella of *N. circula* bears four folds while Satyamurti (1952) records three. In this study of 500 individuals, the columella in all the specimens bears three folds, thus agreeing with Satyamurti (1952).

The average measurement of the shell is 42.1 mm in length and 20.0 mm height of aperture.

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35. THE GIANT AFRICAN LAND SNAIL *ACHATINA FULICA* BOWDICH IN NEPAL AND BHUTAN

The giant African land snail (*Achatina fulica*) is a serious agrihorticultural pest in most Indo-Pacific islands (Mead 1961, 1979; Raut and Ghose 1984, Raut 1992, Srivastava 1992). Being native to Kenya, East Africa, these snails were available in islands adjacent to East Africa around 1800 AD. W.H. Benson, a conchologist, brought a pair of live adult *A. fulica* specimens from Mauritius and released them in the Chowringhee Garden, Calcutta in 1847. Within a few years, they were common in parts of Bengal and Bihar. They are now very common in most Indian States (Raut and Ghose 1984), Bangladesh, Nepal and Bhutan. The status of *A. fulica* in Bangladesh was reported by Jahan and Raut (1994), but information on these snails from Nepal and Bhutan is wanting. This note is a report on the present status of *A. fulica* in Nepal and Bhutan.

In Nepal, *A. fulica* is common to abundant in almost all possible niches of Birat Nagar, Jaleshwar and Birgunge. In Bhutan, Samchi, Phuntsoling and Chirang are infested by these snails. It is said that these snails have invaded these countries from the adjacent snail-infested areas of India and become established over the past 6 to 7 decades.

The snails are nocturnal. They feed on vegetable crops viz. gourd, lettuce, cabbage, bean, etc.; fruit plants viz. papaya and cucumber and ornamentals marigold, chrysanthemum and American life plant. By feeding on these, they damage the crops seriously. Kitchen gardens and flower gardens are seriously threatened. Though the degree of damage is influenced by the snails' density, the seedlings of preferred food-plant species are never spared.

With the onset of monsoon they come out of their hiding places and start breeding. In Nepal and Bhutan, countries, breeding starts by May and continues upto early November. In all these countries, the rate of egg laying is higher during the first three-month period and the population density gradually increases during the last three months of the active period. During September-November they become a serious nuisance and health hazard. They are so numerous that every day a person must collect a few dozen snails from the walls, doors and lawn of his house, so as to keep the premises clean. Besides, it becomes practically impossible to walk on the road or drive a car at night, without crushing the crawling snails. Many of them are found crawling on the water supply or tube-well pipes, or on water tanks, thereby contaminating drinking water.

To date, no effective control measure has been found. Common salt is sometimes applied on the moving snails. Bandicoot rats are seen to feed on these snails, but it is not known whether the rats prefer the snails' flesh or feed on them only under compulsion.

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